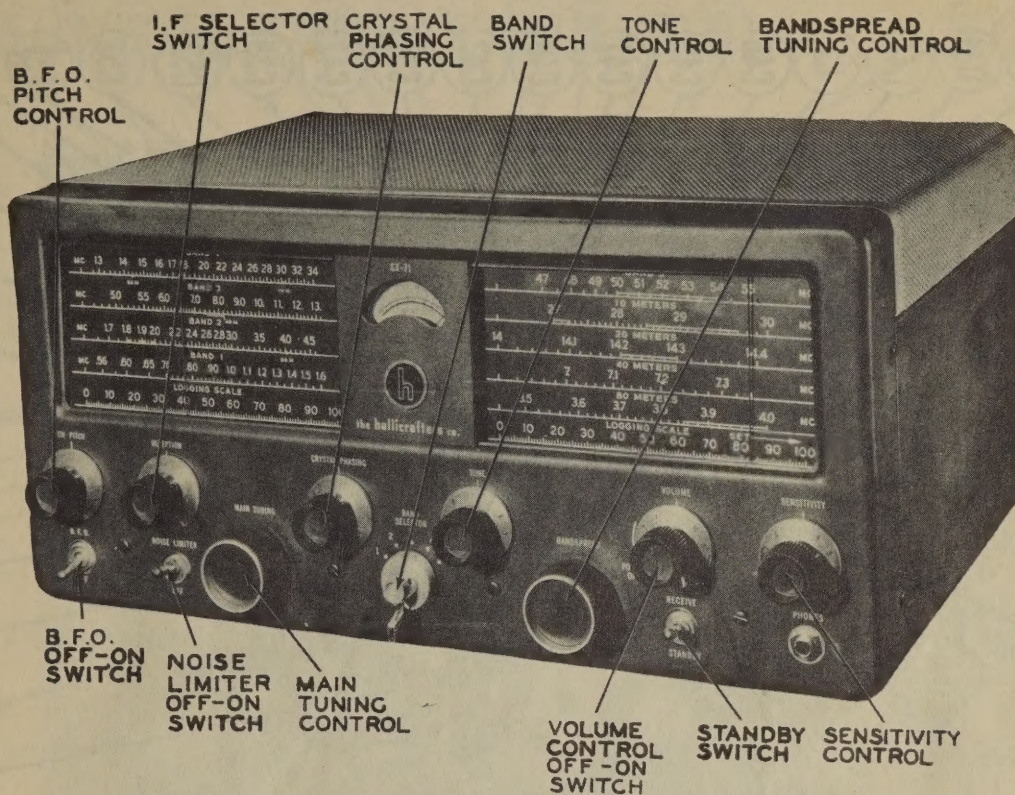




HALLICRAFTERS  
MODEL SX-71



HALLICRAFTERS MODEL SX-71

TRADE NAME	Hallicrafters, Model SX-71		
MANUFACTURER	The Hallicrafters Co. 5th and Kostner Avenues, Chicago 24, Illinois		
TYPE SET	AC Operated Multi-Band Superheterodyne Communications Receiver		
TUBES (THIRTEEN)	Types 6BA6 RF Amp., 6AU6 Mixer, 6C4 Oscillator, 6BE6 Converter, 6SK7 1st IF Amp., 6SK7 2nd IF Amp., 6SH7 3rd IF Amp., 6AL5 Detector, 6H6 AVC Rect.-Noise Limiter, 6SC7 BFO-AF Amp., 6K6GT Power Output, 0D3/VR150 Voltage Regulator, 5Y3GT Rectifier		
POWER SUPPLY	105-125 Volts AC	RATING	.75 Amp. at 117 Volts AC
TUNING RANGE-BROADCAST	560-1600KC	SHORT WAVE	#1 1650-4700KC, #2 4.7MC-13.4MC #3 12.8-34MC, #4 46-56MC

### "S" METER ADJUSTMENT

#### MECHANICAL:

Turn off receiver.

Remove the round metal disc directly below the meter and adjust the pivot adjustment screw in either direction until the needle indicates zero.

#### ELECTRICAL:

Turn the receiver on.

Set the Receive/Standby switch to Receive position.

Set "BFO" switch to "OFF" Position.

Turn the sensitivity control fully clockwise.

Set the Noise-Limiter switch to "OFF" position.

Short the antenna terminals to chassis.

Adjust the "S" meter control on rear of chassis until meter needle indicates zero.

HOWARD W. SAMS & CO., INC. • Indianapolis 1, Indiana

"The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed."

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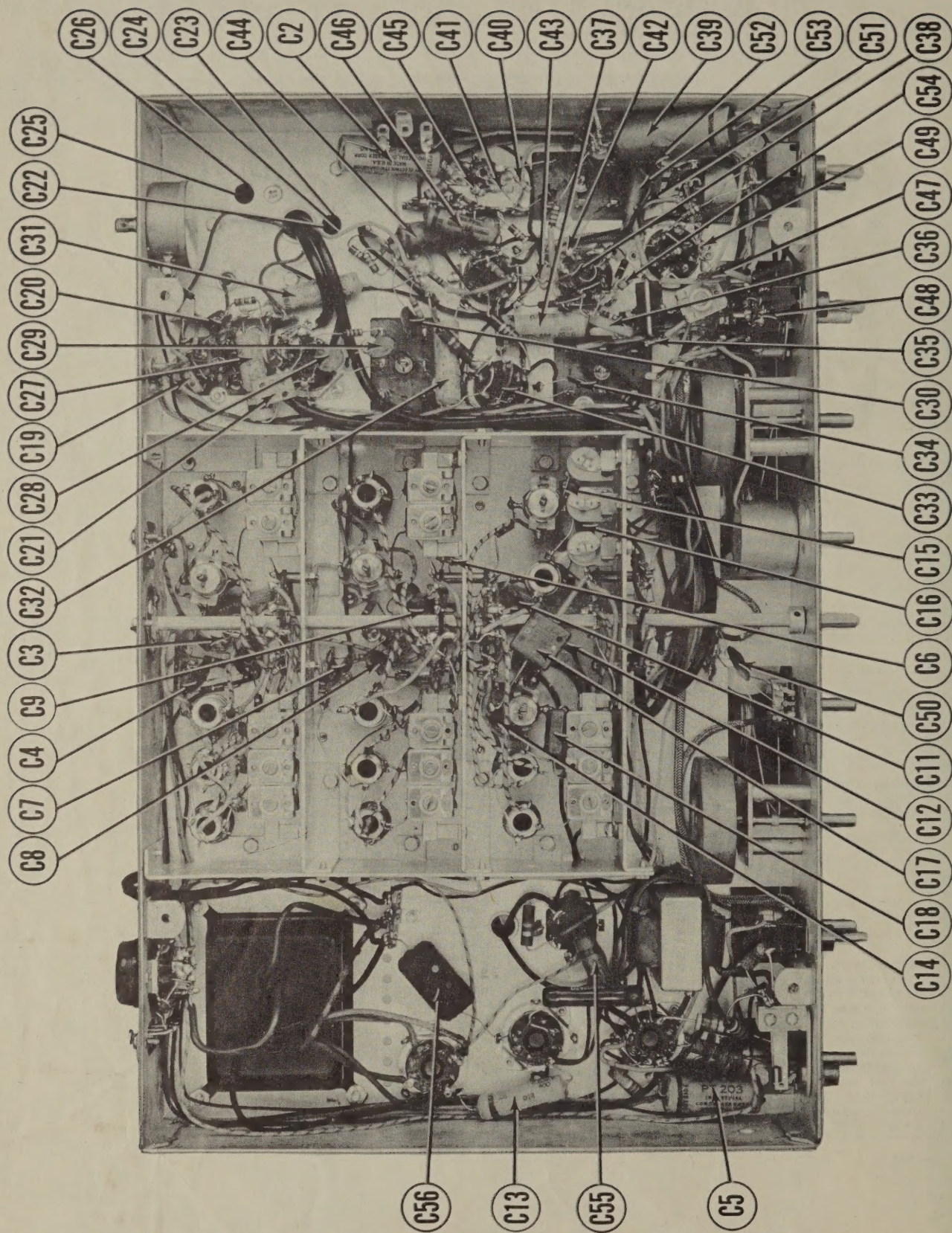
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SET 111

FOLDER 6

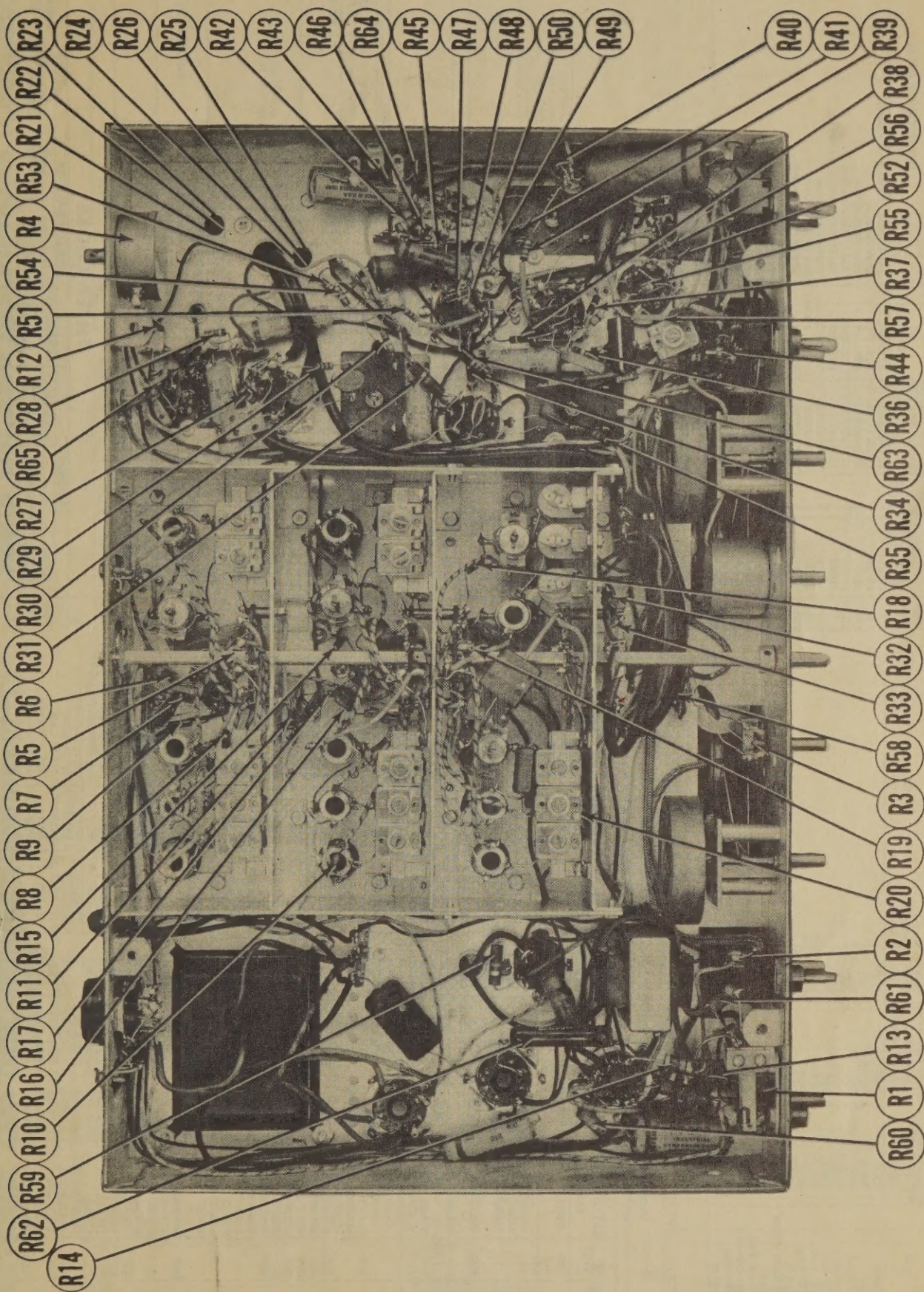
HALLICRAFTERS  
MODEL SX-71







# HALICRAFTERS MODEL SX-71





PARTS LIST AND DESCRIPTIONS  
TUBES (SYLVANIA or Equivalent)

PARTS LIST AND DESCRIPTIONS (Continued)  
RESISTORS

ITEM No.	USE	REPLACEMENT DATA		NOTES
		HALLICRAFTER PART No.	STANDARD REPLACEMENT	
V1	RF Amp.	6BA6	7BK	
V2	Mixer	6AU6	7BK	
V3	Oscillator	6C4	6BG	
V4	Converter	6BE6	7CH	
V5	1st IF Amp.	6SK7	8N	
V6	2nd IF Amp.	6SK7	8N	
V7	3rd IF Amp.	6SH7	8BT	
V8	Detector	6AL5	6BT	
V9	AVC Rect.-Noise Limiter	6H6	7Q	
V10	BFO-AF Amp.	6SC7	8S	
V11	Power Output	6X6GT	7S	
V12	Voltage Reg.	OD3/YR150	4AJ	
V13	Rectifier	5Y3GT	5T	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING CAP. VOLT	HALLICRAFTER PART No.	REPLACEMENT DATA		IDENTIFICATION CODES AND INSTALLATION NOTES
			AEROVOX PART No.	CENTRALAB PART No.	
C1A	60	45B113	AF1244J	UPT62245	D13409
C1B	450	45A163	PR150/4	BR145	TVA-1300
C1C	20	47B2022K5	S1220	5W5T2	19C13
C2	220	47A216	BPD-2 x 004	ID5D4	38C2
C3	4000	46A1254J	P488-25	G12P25	2TM-2
C4	25	47A218	S115	5W5Q2	19C22
C5	15	47A218	BPD-2 x 004	ID5D4	38C2
C6	4000	47A168	BPD-005	DD-502	882-2 x 004
C7	100	47A160-4	S1100	DD-502	811-005
C8	100	47A160-4	S1100	DD-502	811-005
C9	100	47A160-4	S1100	DD-502	811-005
C10	2	47A160-4	S1100	DD-502	811-005
C11	100	47A160-4	S1100	DD-502	811-005
C12	100	47A160-4	S1100	DD-502	811-005
C13	100	47A160-4	S1100	DD-502	811-005
C14	100	47A160-4	S1100	DD-502	811-005
C15	100	47A160-4	S1100	DD-502	811-005
C16	100	47A160-4	S1100	DD-502	811-005
C17	100	47A160-4	S1100	DD-502	811-005
C18	100	47A160-4	S1100	DD-502	811-005
C19	100	47A160-4	S1100	DD-502	811-005
C20	100	47A160-4	S1100	DD-502	811-005
C21	100	47A160-4	S1100	DD-502	811-005
C22	100	47A160-4	S1100	DD-502	811-005
C23	100	47A160-4	S1100	DD-502	811-005
C24	100	47A160-4	S1100	DD-502	811-005
C25	100	47A160-4	S1100	DD-502	811-005
C26	100	47A160-4	S1100	DD-502	811-005
C27	100	47A160-4	S1100	DD-502	811-005
C28	100	47A160-4	S1100	DD-502	811-005
C29	100	47A160-4	S1100	DD-502	811-005
C30	100	47A160-4	S1100	DD-502	811-005
C31	100	47A160-4	S1100	DD-502	811-005
C32	100	47A160-4	S1100	DD-502	811-005
C33	100	47A160-4	S1100	DD-502	811-005
C34	100	47A160-4	S1100	DD-502	811-005
C35	100	47A160-4	S1100	DD-502	811-005
C36	100	47A160-4	S1100	DD-502	811-005
C37	100	47A160-4	S1100	DD-502	811-005
C38	100	47A160-4	S1100	DD-502	811-005
C39	100	47A160-4	S1100	DD-502	811-005
C40	100	47A160-4	S1100	DD-502	811-005
C41	100	47A160-4	S1100	DD-502	811-005
C42	100	47A160-4	S1100	DD-502	811-005

ITEM No.	RESISTANCE	RATING WATTS	REPLACEMENT DATA		IDENTIFICATION CODES
			HALLICRAFTER PART No.	IRC PART No.	
R31	1000Ω	1	23X30X102K	BTA-1000	2nd IF Amp. Cathode-See Note 1
R32	2700Ω	1	23X20X272K	BTS-2700	Bias Network
R33	6800Ω	1	23X20X682K	BTS-6800	Bias Network
R34	6800Ω	1	23X20X682K	BTS-6800	2nd IF Amp. Screen
R35	3300Ω	1	23X20X332K	BTS-3300	2nd IF Amp. Plate Decoupling
R36	100KΩ	1	23X20X104K	BTS-100K	Phase Correction
R37	2.2 Meg.	1	23X20X225K	BTS-2.2 Meg.	BTS-2.2 Meg.
R38	270Ω	1	23X20X271K	BTS-270	3rd IF Amp. Grid
R39	33KΩ	1	23X20X333K	BTS-33K	3rd IF Amp. Cathode
R40	3300Ω	1	23X20X332K	BTS-3300	3rd IF Amp. Decoupling
R41	56KΩ	1	23X20X563K	BTS-56K	De-emphasis
R42	39KΩ	1	23X20X393K	BTS-39K	Ratio Det. Diode Load
R43	220KΩ	1	23X20X224K	BTS-220K	Ratio Det. Diode Load
R44	100KΩ	1	23X20X104K	BTS-100K	Voltage Divider
R45	82KΩ	1	23X20X823K	BTS-82K	Voltage Divider
R46	220KΩ	1	23X20X224K	BTS-220K	Det. Diode Load
R47	2.2 Meg.	1	23X20X225K	BTS-2.2 Meg.	Limiter Diode Load
R48	470KΩ	1	23X20X474K	BTS-470K	Limiter Filter
R49	470KΩ	1	23X20X474K	BTS-470K	Limiter Filter
R50	470KΩ	1	23X20X474K	BTS-470K	AVC Diode Load
R51	1 Meg.	1	23X20X105K	BTS-1 Meg.	AVC Network
R52	150Ω	1	23X20X151K	BTS-150	AVC Shunt
R53	180KΩ	1	23X20X184K	BTS-180K	Delayed AVC
R54	27KΩ	1	23X20X273K	BTS-27K	Delayed AVC
R55	100KΩ	1	23X20X104K	BTS-100K	BFO Grid
R56	22KΩ	1	23X20X223K	BTS-22K	BFO Plate
R57	15 Meg.	1	23X20X156K	BTS-15 Meg.	AF Amp. Grid
R58	220KΩ	1	23X20X224K	BTS-220K	AF Amp. Plate
R59	10KΩ	1	23X30X103K	BTA-10K	AF Amp. Plate Decoupling
R60	560Ω	1	23X30X561K	BTA-560	Power Output Cathode
R61	360Ω	1	23X30X361K	BTA-360	Voice Coil Shunt
R62	2500Ω	1	23X30X252K	BW-1-6.8	Voltage Dropping-Wire Wound
R63	6.8Ω	1	23X30X68K	BW-1-6.8	AVC and Limiter Filter
R64	6.8Ω	1	23X30X68K	BW-1-6.8	Det. Filament
R65	3300Ω	1	23X20X332K	BTS-3300	Decoupling

Note 1. Some models use a 2700 resistor in this application.

TRANSFORMER (POWER)

ITEM No.	RATING	REPLACEMENT DATA		CHICAGO PART No.
		HALLICRAFTER PART No.	STANCOR PART No.	
T1A	117VAC 500VCT .095ADC	52C174	P-6313	PH-90 ② ③
B	117VAC .095ADC	52C175 ①		

- ① Alternate part.
- ② Drill new mounting holes.
- ③ Add series resistor to reduce plate voltage.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING	REPLACEMENT DATA		INSTALLATION NOTES
		HALLICRAFTER PART No.	STANCOR PART No.	
T2	IMPEDANCE PRI. SEC. 7000Ω 500Ω 880Ω	55B120	A-3878	
	Tap@ 3.2Ω			

FILTER CHOKE

ITEM No.	RATINGS	REPLACEMENT DATA		INSTALLATION NOTES
		HALLICRAFTER PART No.	STANCOR PART No.	
LI	TOTAL DIRECT CURRENT .065ADC	56B107		R-1365 ② ③ Drill new mounting holes.



PARTS LIST AND DESCRIPTIONS (Continued)

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		HALLICRAFTER PART No.	REPLACEMENT DATA				IDENTIFICATION CODES AND INSTALLATION NOTES	
	CAP.	VOLT		AEROVOX PART NO.	CENTRALAB PART NO.	CORNELL-DUBILIER PART NO.	ERIE PART No.	SPRAGUE PART No.	
C43	220		47B20221K5	SI220	D6-221	5W5T25	GP2K-220	19C13	Noise Limiter Filter
C44	.1	200	46AU104J	P288-1	DF-104	PTE4P1		2TM-1	Noise Limiter Filter
C45	220		47B20221K5	SI220	D6-221	5W5T25	GP2K-220	19C13	Noise Limiter Filter
C46	.02	200	46AU203J	P488-02	DF-203	PTE4S2		2TM-12	Audio Coupling
C47	5000		47AI68	BPD-005	DD-502	ID5D5	81L-005	29C1	Audio Coupling
C48	5000		47AI68	BPD-005	DD-502	ID5D5	81L-005	29C1	Audio Coupling
C49	220		47B20221K5	SI220	D6-221	5W5T25	GP2K-220	19C13	AF Amp. Plate
C50A	4000		47A218	BPD-2 x 004	DD-2-502	{	ID5D4	{	39C2
C50B	4000								
C51	220		47B20221K5	SI220	D6-221	5W5T25	GP2K-220	19C13	Audio Coupling
C52	220	500	47X20B47J	1469-0005	D6-103	5R5T5		MS-35	Osc. Grid Cap.
C53	.01	600	46AX103J	P888-01	TCZ-1	PTE6S1	81L-01	6TM-11	Fixed Trimmer
C54	1	600	47AI60-2		D6-103	PTE6S1	81L-01	6TM-11	Osc. Feedback
C55	.01	600	46AX103J	P888-01	D6-103	PTE6S1	81L-01	6TM-11	Osc. Coupling
C56	.01	600	46X35X103M	P888-01	D6-103	PTE6S1	81L-01	6TM-11	Output Plate
C57	.01	600							Line Filter

\* When either items C40 or C41 are replaced, replace both with capacitors of equal value.

CONTROLS

ITEM No.	RATING RESISTANCE	WATTS	REPLACEMENT DATA				INSTALLATION NOTES	
			HALLICRAFTERS PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.		
R1	10KΩ	1/2	25B582	QJ3-133	AG-60-Z	B-60-S	Sensitivity control	
R2A	500KΩ	1/2	25B584	Not Req.	FS-3	Not Req.	Volume control	
R2B	Shunt		Not Req.	Not Req.	SWB	Not Req.	Attach to R2A per instructions	
R3A	Switch	1/2	25B589	QJ3-133	AG-60-Z	B-60	Tone control	
R3B	500KΩ		Not Req.	Not Req.	FS-3	Not Req.	Attach to R3A per instructions	
R4	Shunt	4	25C022	RTV-126			S-Meter adjustment-Wire Wound	

RESISTORS

ITEM No.	RATING RESISTANCE	WATTS	REPLACEMENT DATA		IDENTIFICATION CODES	
			HALLICRAFTER PART No.	IRC PART No.		
R5	10KΩ	1/2	23X20X100K	BTS-1 Meg.	Parasitic Suppressor	
R6	1 Meg.		23X20X100K	BTS-82	RF Amp. Grid	
R7	82Ω		23X20X820K		RF Amp. Cathode	
R8	15Ω		23X20X150K		Parasitic Suppressor	
R9	8200Ω		23X20X822K	BTS-8200	RF Amp. Screen	
R10	100Ω		23X20X101K	BTS-100	RF Transformer Shunt	
R11	3300Ω		23X20X332K	BTS-3300	RF Amp. Plate Decoupling	
R12	82Ω		23X20X820K	BTS-82	Series S-Meter	
R13	47KΩ		23X30X473K	ETA-47K	Voltage Divider	
R14	47KΩ		23X40X473K	ETB-47K	Voltage Divider	
R15	2.2 Meg.		23X20X225K	BTS-2.2	Mixer Grid	
R16	2000Ω		23X20X222K	BTS-2200	Mixer Cathode	
R17	330KΩ		23X20X334K	BTS-330K	Mixer Screen	
R18	10KΩ		23X20X100K		Parasitic Suppressor	
R19	22KΩ		23X20X223K	BTS-22K	Osc. Grid	
R20	10KΩ		23X30X103K	BTA-10K	Osc. Plate	
R21	22KΩ		23X20X223K	BTS-22K	Osc. Grid	
R22	15Ω		23X20X150K	BTS-150	Parasitic Suppressor	
R23	150Ω		23X20X151K	BTS-150	Conv. Cathode	
R24	10KΩ		23X30X103K	BTA-10K	Conv. Screen	
R25	220Ω		23X20X221K	BTS-220	Parasitic Suppressor	
R26	100KΩ		23X20X104K	BTA-100K	AVC Network	
R27	270Ω		23X20X271K	BTS-270	1st IF Amp. Cathode	
R28	2700Ω		23X20X272K	BTS-2700	Bias Network	
R29	33KΩ		23X20X333K	BTS-33K	1st IF Amp. Screen	
R30	100KΩ		23X20X104K	BTS-100K	AVC Network	

PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF)

ITEM No.	USE	DC RES.	REPLACEMENT DATA		NOTES
			HALLICRAFTER PART No.	MEISSNER PART No.	
L2	Ant. Coil	25Ω	51B1088		Band 1
L3	Ant. Coil	.8Ω	51B1089		Band 2
L4	Ant. Coil	.7Ω	51B1090		Band 3
L5	Ant. Coil	.5Ω	51B1091		Band 4
L6	Ant. Coil	.5Ω	51B1092		Band 5
L7	RF Choke	100Ω	53A107		Band 1
L8	RF Coil	.7Ω	51B1093		Band 2
L9	RF Coil	.5Ω	51B1094		Band 3
L10	RF Coil	1.4Ω	51B1095		Band 4
L11	RF Coil	.3Ω	51B1096		Band 5
L12	RF Coil	.5Ω	51B1097		Band 1 Tap at 3.5Ω
L13	Osc. Coil	1.5Ω	51B1098		Band 2 Tap at .5Ω
L14	Osc. Coil	1.5Ω	51B1099		Band 3 Taps at .2Ω and .4Ω
L15	Osc. Coil	3.2Ω	51B1100		Band 4 Taps at .1Ω and .3Ω
L16	Osc. Coil	1.7Ω	51B1101		Band 5 Tap at .2Ω
L17	Osc. Coil	.4Ω	51B1160		Bands, 3, 4, 5(2.53MC)
L18	Osc. Coil	0Ω	50H448		
L19	2.075MC IF	.5Ω	50H414		
L20	455KC 1st IF	1Ω	50H416		
L21	455KC 2nd IF	1Ω	50H416		
L22	455KC 3rd IF	5.5Ω	50H415		
L23	Det. Trans.	9Ω	50H418		
L24	BFO Coil	16Ω	54B039		Taps at 4.2Ω and 4Ω Tap at 4.5Ω Tap at 4Ω

DIAL LIGHTS

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		NOTES
					HALLICRAFTER PART No.	PART No.	
M1	Bayonet	6-8	.25	Blue		39A003	Type #44
M2	Bayonet	6-8	.25	Blue		39A003	Type #44
M3	Bayonet	6-8	.15	Brown		39A004	Type #47
M4	Bayonet	6-8	.15	Brown		39A004	Type #47

MISCELLANEOUS

ITEM No.	PART NAME	HALLICRAFTERS PART No.	REPLACEMENT DATA		NOTES
			HALLICRAFTER PART No.	MEISSNER PART No.	
M5	Crystal		19A123		455KC
M6A	Switch		62B051		Band (Antenna and Mixer)
M6B			62B049		Band (Oscillator Grid)
M6C			62B050		Band (Oscillator Plate)
M6D			62B048		Band (Conv. Plate and Bias)
M7	Switch		60B343		Function
M8	Switch		60A263		BFO-Off
M9	Switch		60A138		Noise Limiter-Off
M10	Switch		60A139		Receive-Standby
M11	Meter		82B166		Carrier Level Indicator
M12	Tuning Gang		48D209		Main (3 section)
M13	Tuning Gang		48C210		Bandspread (3 section)
M14	Variable Cap.		48A182		Crystal Phasing
A7	Trimmer		44A047		
	Trimmer Strip		44B383		A13, A16, A17
	Trimmer Strip		44B382		A14, A18, A31
	Trimmer Strip		44B381		A15, A19, A32
	Trimmer		44A378		A20, A24, A30
	Trimmer Strip		44B380		A22, A28
	Trimmer Strip		44B379		A23, A29
	Dial Pointer		82A169		
	Dial Scale		83D358		



# ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointers of the main tuning and bandspread dials turn the tuning gangs fully closed and set pointer to 0 reference mark on the logging scale.

Set the tone control to maximum. Sensitivity control to maximum. Volume control to maximum. Noise limiter switch to "off" position, and Receiver—Standby switch to receive position.

## IF ALIGNMENT

Before attempting step 5 connect two matched 100KΩ ( $\pm 1\%$ ) resistors in series from point A to chassis. The junction of these two resistors is alignment point B as shown on the schematic.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	Direct	High side to stator of middle section of main tuning gang. Low side to chassis.	455KC (Unmod.)	Band 2	Both dials at 50 on logging scale.	Across voice coil		Turn reception switch to broad crystal, and BFO switch to BFO. Remove the knob from "CW" pitch control and adjust shaft for zero beat. Replace knob with zero at index line.
2.	Direct	"	"	"	"	"	A1	Adjust "CW" pitch for 1000Ω note. Rock the signal generator while turning the slug very slowly in one direction. As the adjustment is made, the output goes thru a maximum, dips down and goes up again. The correct setting of the slug is at the center of the dip.
3.	Direct	"	"	"	"	"		Turn the reception switch to "sharp crystal" position and set the signal generator frequency for maximum output on the crystal frequency.
4.	Direct	"	455KC (400 % Mod.)	"	"	"	A2, A3, A4, A5, A6, A7, A8	Turn reception switch to "Normal IF" position. BFO switch to "OFF" position. Adjust for maximum output.
5.	Direct	"	455KC (Unmod.)	"	"	Use VTVM. DC Probe to Point A. Common to Point B.	A9	Turn reception switch to NBFM position. Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
6.	Direct	"	2.075MC (400 % Mod.)	Band 4	"	Across voice coil	A10, A11, A12	Turn the reception switch to "Normal IF" position. Adjust A10 until a signal is heard. Adjust A-11 and A12 for maximum output. Repeat until no further improvement can be made.

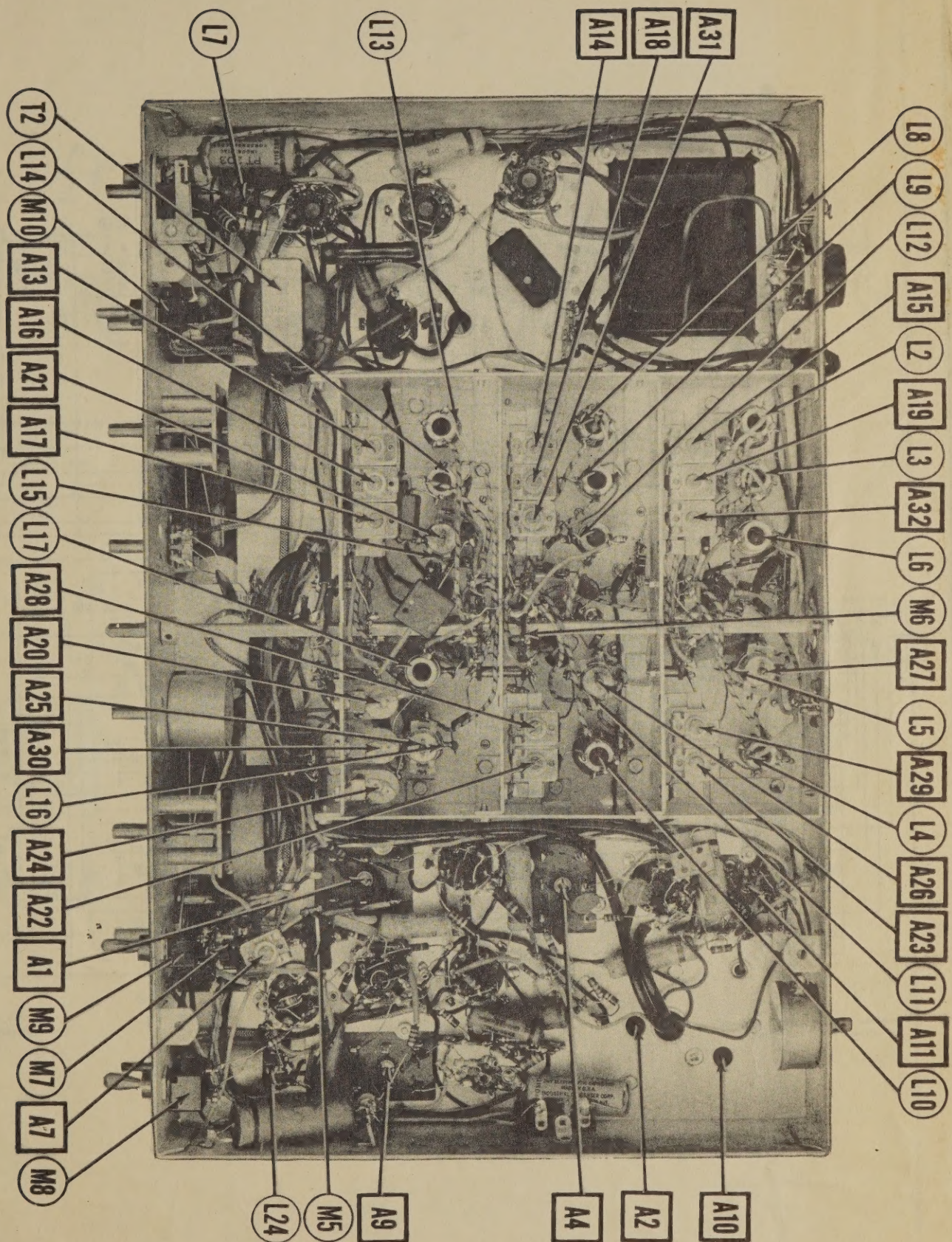
## RF ALIGNMENT

Connect a jumper between "A2" and "G" terminals of the antenna terminal strip. Set the bandspread dial at 100 on the logging scale for all steps except step 16. In step 16 the main tuning dial should be set at 100 on the logging scale.

Turn the reception switch to "normal IF" position and the "BFO" switch to "BFO" position.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
7.	300Ω carbon res.	High side to antenna terminal "A1". Low side to chassis.	1500KC	Band 1	1500KC	Across voice coil	A13, A14	Adjust A13 until a signal is heard. Adjust A14 for maximum output.
8.	"	"	600KC	"	600KC	"	A15	Adjust for maximum output.
9.	"	"	1500KC	"	1500KC	"	A16	Adjust until a signal is heard. Repeat steps 7, 8 and 9 until no further improvement can be made.
10.	"	"	4MC	Band 2	4MC	"	A17, A18, A19	Adjust A17 until signal is heard. Adjust A18 and A19 for maximum output. Repeat until no further improvement can be made.
11.	"	"	12MC	Band 3	12MC	"	A20	Adjust until signal is heard.
12.	"	"	5.2MC	"	5.2MC	"	A21	"
13.	"	"	12MC	"	12MC	"	A20, A22, A23	Adjust for maximum output while "rocking" tuning gang. Repeat steps 11, 12 and 13 until no further improvement can be made.
14.	"	"	30MC	Band 4	30MC	"	A24	Adjust until signal is heard.
15.	"	"	14MC	"	14MC	"	A25, A26, A27, A28, A29	Adjust A25 until signal is heard. Adjust A26, A27, A28 and A29 for maximum output while "rocking" tuning gang. Repeat steps 14 and 15 until no further improvement can be made.
16.	"	"	54MC	Band 5	Bandspread dial at 54MC	"	A30, A31, A32	Adjust A30 until signal is heard. Adjust A31 and A32 for maximum output while "rocking" the tuning gang. Repeat until no further improvement can be made.







# ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointers of the main tuning and bandspread dials turn the tuning gangs fully closed and set pointer to 0 reference mark on the logging scale.

Set the tone control to maximum. Sensitivity control to maximum. Volume control to maximum. Noise limiter switch to "off" position, and Receiver- Standby switch to receive position.

## IF ALIGNMENT

Before attempting step 5 connect two matched 100K $\Omega$  ( $\pm 1\%$ ) resistors in series from point A to chassis. The junction of these two resistors is alignment point B as shown on the schematic.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	Direct	High side to stator of middle section of main tuning gang. Low side to chassis.	455KC (Unmod.)	Band 2	Both dials at 50 on logging scale.	Across voice coil		Turn reception switch to broad crystal, and BFO switch to BFO. Remove the knob from "CW" pitch control and adjust shaft for zero beat. Replace knob with zero at index line.
2.	Direct	"	"	"	"	"	A1	Adjust "CW" pitch for 1000 $\Omega$ note. Rock the signal generator while turning the slug very slowly in one direction. As the adjustment is made, the output goes thru a maximum, dips down and goes up again. The correct setting of the slug is at the center of the dip.
3.	Direct	"	"	"	"	"		Turn the reception switch to "sharp crystal" position and set the signal generator frequency for maximum output on the crystal frequency.
4.	Direct	"	455KC (400 % Mod.)	"	"	"	A2, A3, A4, A5, A6, A7, A8	Turn reception switch to "Normal IF" position. BFO switch to "OFF" position. Adjust for maximum output.
5.	Direct	"	455KC (Unmod.)	"	"	Use VTVM. DC Probe to Point A. Common to Point B.	A9	Turn reception switch to NBFM position. Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
6.	Direct	"	2.075MC (400 % Mod.)	Band 4	"	Across voice coil	A10, A11, A12	Turn the reception switch to "Normal IF" position. Adjust A10 until a signal is heard. Adjust A-11 and A12 for maximum output. Repeat until no further improvement can be made.

## RF ALIGNMENT

Connect a jumper between "A2" and "G" terminals of the antenna terminal strip. Set the bandspread dial at 100 on the logging scale for all steps except step 16. In step 16 the main tuning dial should be set at 100 on the logging scale.

Turn the reception switch to "normal IF" position and the "BFO" switch to "BFO" position.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
7.	300 $\Omega$ carbon res.	High side to antenna terminal "A1". Low side to chassis.	1500KC	Band 1	1500KC	Across voice coil	A13, A14	Adjust A13 until a signal is heard. Adjust A14 for maximum output.
8.	"	"	600KC	"	600KC	"	A15	Adjust for maximum output.
9.	"	"	1500KC	"	1500KC	"	A16	Adjust until a signal is heard. Repeat steps 7, 8 and 9 until no further improvement can be made.
10.	"	"	4MC	Band 2	4MC	"	A17, A18, A19	Adjust A17 until signal is heard. Adjust A18 and A19 for maximum output. Repeat until no further improvement can be made.
11.	"	"	12MC	Band 3	12MC	"	A20	Adjust until signal is heard.
12.	"	"	5.2MC	"	5.2MC	"	A21	"
13.	"	"	12MC	"	12MC	"	A20, A22, A23	Adjust for maximum output while "rocking" tuning gang. Repeat steps 11, 12 and 13 until no further improvement can be made.
14.	"	"	30MC	Band 4	30MC	"	A24	Adjust until signal is heard.
15.	"	"	14MC	"	14MC	"	A25, A26, A27, A28, A29	Adjust A25 until signal is heard. Adjust A26, A27, A28 and A29 for maximum output while "rocking" tuning gang. Repeat steps 14 and 15 until no further improvement can be made.
16.	"	"	54MC	Band 5	Bandspread dial at 54MC	"	A30, A31, A32	Adjust A30 until signal is heard. Adjust A31 and A32 for maximum output while "rocking" the tuning gang. Repeat until no further improvement can be made.



# VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
V 1	6BA6	0V.	48VDC	0V.	6.3VAC	260VDC	150VDC	48VDC	
V 2	6AU6	.5VDC	0V.	6.3VAC	0V.	260VDC	85VDC	4.4VDC	
V 3	6C4	90VDC	0V.	6.3VAC	0V.	90VDC	9-3.2VDC	0V.	
V 4	6BE6	5-.2VDC	0V.	6.3VAC	0V.	260VDC	1150VDC	0V.	
V 5	6SK7	11.1VDC	6.3VAC	0V.	260VDC	1150VDC	0V.		
V 6	6SK7	0V.	0V.	52VDC	# 2VDC	52VDC	250VDC	6.3VAC	260VDC
V 7	6SH7	0V.	0V.	48VDC	# 2VDC	48VDC	150VDC	6.3VAC	260VDC
V 8	6AL5	0V.	0V.	2VDC	0V.	2VDC	130VDC	6.3VAC	235VDC
V 9	6H6	0V.	0V.	-50VDC	0V.	-5.4VDC	0V.	-5.4VDC	
V 10	6SC7	0V.	0V.	-20VDC	-20VDC	# -.2VDC	150VDC	4.3VAC	23VDC
V 11	6K6GT	0V.	100VDC	-6VDC	-5.4VDC	225VDC	0V.	6.3VAC	0V.
V 12	OD3/YR150	0V.	0V.	6.3VAC	260VDC	265VDC	0V.	48VDC	0V.
V 13	5Y3GT	0V.	0V.	150VDC	0V.	150VDC	0V.	150VDC	0V.

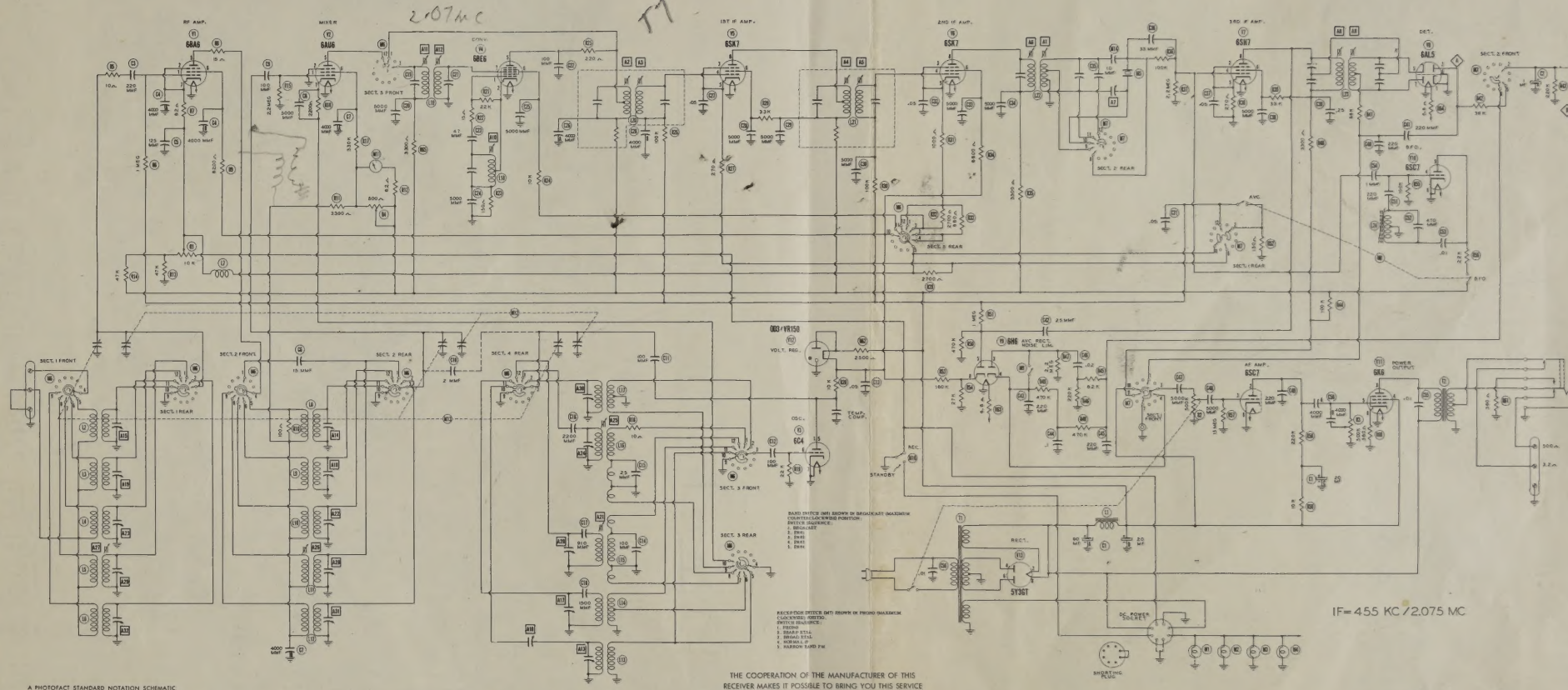
# RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
V 1	6BA6	1 Meg.	8KΩ	0Ω	.1Ω	14KΩ	11KΩ	8KΩ	
V 2	6AU6	2.2 Meg.	0Ω	.1Ω	0Ω	13.8KΩ	1330KΩ	2.2KΩ	
V 3	6C4	113KΩ	0Ω	.1Ω	0Ω	113KΩ	22KΩ	0Ω	
V 4	6BE6	22KΩ	150Ω	.1Ω	0Ω	13.8KΩ	113KΩ	.5Ω	
V 5	6SK7	0Ω	0Ω	13KΩ	13KΩ	13KΩ	.1Ω	13.8KΩ	
V 6	6SK7	0Ω	0Ω	14KΩ	14KΩ	14KΩ	19.6KΩ	.1Ω	13.6KΩ
V 7	6SH7	0Ω	0Ω	270Ω	2.2 Meg.	270Ω	136KΩ	.1Ω	13.8KΩ
V 8	6AL5	0Ω	340KΩ	0Ω	3.7Ω	Inf.	0Ω	Inf.	
V 9	6H6	0Ω	0Ω	2.2 Meg.	1.2 Meg.	320KΩ	12.8KΩ	3.2Ω	27KΩ
V 10	6SC7	0Ω	1230KΩ	15 Meg.	100KΩ	122KΩ	0Ω	.1Ω	0Ω
V 11	6K6GT	Inf.	.1Ω	1880Ω	1335Ω	500KΩ	8KΩ	0Ω	560Ω
V 12	OD3/YR150	Inf.	0Ω	12.8KΩ	Inf.	12.8KΩ	Inf.	12.8KΩ	Inf.
V 13	5Y3GT	Inf.	35KΩ	Inf.	60Ω	Inf.	60Ω	Inf.	35KΩ

NOISE LIMITER SWITCH OFF UNLESS OTHERWISE NOTED.  
RECEIVE-STANDBY SWITCH IN "RECEIVE" POSITION.  
BANDSWITCH IN POSITION #1 UNLESS OTHERWISE NOTED.  
FUNCTION SWITCH IN POSITION #4.  
BFO-AVC SWITCH ON UNLESS OTHERWISE NOTED.  
† MEASURED FROM PIN 2 OF V13.  
‡ BFO-AVC SWITCH "OFF".  
§ NOISE LIMITER SWITCH "ON".  
¶ TAKEN WITH BANDSWITCH IN POSITIONS 3, 4, or 5.  
‡ TAKEN WITH VACUUM TUBE VOLTMETER.

THE COOPERATION OF THE MANUFACTURER OF THIS  
RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

- DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms.
- Socket connections are shown as bottom views.
- Measured values are from socket pin to common negative.
- Line voltage maintained at 117 volts for voltage readings.
- Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
- Volume control at maximum, no signal applied for voltage measurements.

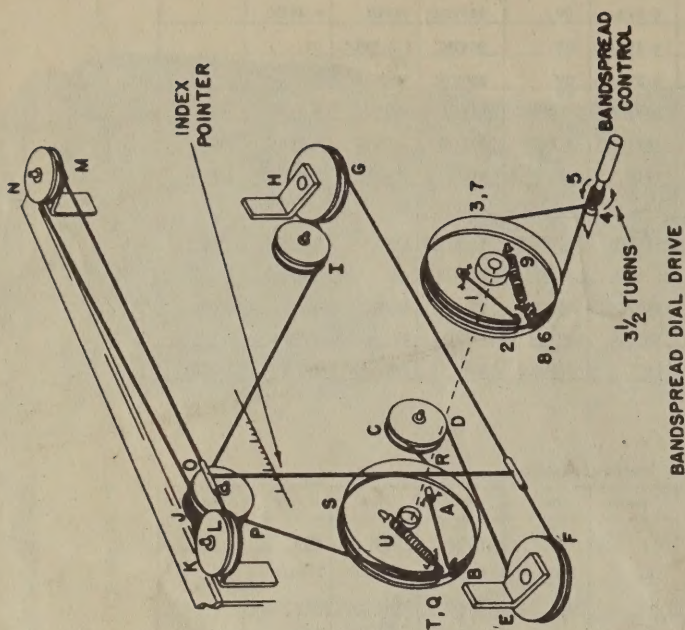
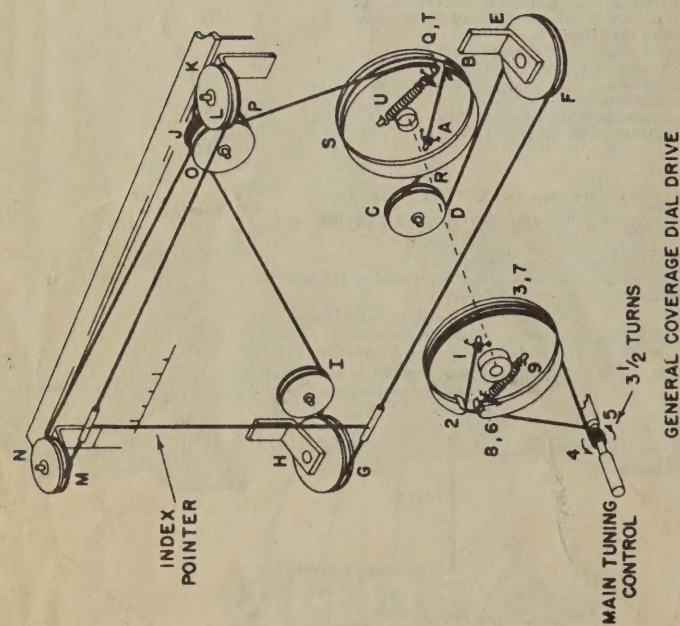


A PHOTOFAC STANDARD NOTATION SCHEMATIC  
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RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

IF = 455 KC / 2.075 MC





#### RESTRINGING DIAL CORD

The dial drive system of the SX-71 consists of four separate spring drives. The two drive shaft stringing systems are identical; the two pointer drive systems are similar but right and left handed.

(1) **DRIVE SHAFT.** - To restring either one, use a 28 inch length of 30 lb. test dial cord. Tie one end of the cord to position "1" on the drum and follow the stringing sequence "1" to "9" as shown. At position "9" stretch the tension spring and tie the cord securely to the spring. Note that the dial cord is wrapped around the drive shaft three and one half times for proper traction.

(2) **POINTER DRIVE.** - To restring either one, use a 66 inch length of 30 lb. test dial cord. Tie one end of the dial cord to position "A" and follow the stringing sequence "A" to "U" as shown. At position "U" stretch the tension spring and tie the cord securely to the spring. Two small pieces of spaghetti tubing approximately one half inch long should be threaded on the cord, to provide a suitable purchase for the dial pointer. With the pointer drive, pulleys positioned as shown on the diagram, the tuning capacitor should be entirely closed. The pointer may now be fastened to the cord and aligned with the 0 position on the logging scale and the index marks on the dial scales. The ends of the pointer should be carefully crimped around the spaghetti tubing and cemented fast.



